



Government of Newfoundland and Labrador

Department of Health and Community Services
Provincial Blood Coordinating Program

**APPROPRIATE UTILIZATION OF O
NEGATIVE RED BLOOD CELLS**

NLBCP-068

Office of Administrative Responsibility	Issuing Authority
Medical Advisor to the Provincial Blood Coordinating Program	Dr. Lucinda Whitman
Manager, Provincial Blood Coordinating Program	Daphne Osborne
Author	Melissa Leonard
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Overview

During times of red blood cell (RBC) shortages, group O Rh(D) negative (O-negative) in particular, it is important to have policies and procedures in place to ensure the availability for those patients for whom there is no alternative. These policies shall provide recommendations along with examples of best practices for the use of O-negative RBCs.

Policy

1. Emergency Issue of Blood Components policy shall be followed at all times, found [here](#).
2. A blood sample for ABO/Rh shall be collected from all bleeding patients upon admission to the Emergency Department as soon as possible to prevent unnecessary use of the O-negative RBC supply.
3. Individuals with no child-bearing potential, in trauma or hemorrhaging, regardless of age shall be transfused group O-positive RBC until their blood group can be determined or unless have historical anti-D.
4. Individuals with child-bearing potential, in trauma or hemorrhaging, above 45 years of age shall be transfused group O-positive RBC until their blood group can be determined or unless known to have anti-D.
5. As soon as the blood group of trauma or hemorrhaging patients is known, patients shall be switched to their own blood group.
6. Known O Rh(D) negative hemorrhaging patients shall switch to O-positive RBC unless known to have anti-D after four units of O-negative RBC.
7. The clinical team shall be advised of the group switch.
8. Medical director consultation shall occur if time permitting.
9. Consultation with Transfusion Medicine Hematologist on call shall occur if time permitting.

Key Words

Red blood cells, O Rh Negative

Supplemental Materials

Mandatory indications: O-negative red cells should always be used for these indications

- O Rh(D) negative individuals of child-bearing potential (less than 45 years of age).
- O Rh(D) negative individuals with anti-D.
- Emergency use for individuals of child-bearing potential (less than 45 years of age) when blood group is unknown, indeterminate, discrepant or compatible units are not available.
- Intrauterine transfusions (intravascular and/or intraperitoneal transfusions).

Highly recommended indications. When possible, O-negative red cells should likely be used for these indications

- O Rh(D) negative individuals (any age) who are expected to receive chronic transfusions (for example, individuals with hemoglobinopathies or with chronic transfusion requirement).

Generally acceptable indications. The use of O-negative red cells may be considered acceptable for these indications

- O Rh(D) negative individuals with no child-bearing potential requiring non-massive transfusion.
- Non-O Rh(D) negative infants, less than one (1) year of age, where group specific units are not available.
- Non-O Rh(D) negative individuals requiring phenotypically matched or antigen negative units when group specific units are unavailable.

Likely unacceptable indications. The use of O-negative red cells is likely unacceptable for these indications. (Likely indications for O-positive red cells)

- Any O Rh(D) negative individual without anti-D and no child-bearing potential requiring a large volume transfusion (greater than four (4) units).
- Non-O Rh(D) negative individuals to avoid expiry, when an ABO'/Rh identical unit is available in the local inventory.
- Rh(D) positive individuals awaiting ABO confirmation results.

* Chart adapted from NAC document on O negative utilization.

References

[https://www.nacblood.ca/resources/guidelines/downloads/GroupORH\(D\)-NegativeRedCells.pdf](https://www.nacblood.ca/resources/guidelines/downloads/GroupORH(D)-NegativeRedCells.pdf)